

RECEIVED
CENTRAL FAX CENTER

APR 16 2007

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

IN THE CLAIMS:

Please amend claims 1, 2, 5, 6, 9 and 12-14 as indicated in
the Listing of Claims.

LISTING OF CLAIMS

1 1. (Currently amended) A diverter switch for branching off
2 bulk-material flows, having a rotary plug (1) disposed in a
3 stationary housing (2) having three connecting openings (4, 5, 6)
4 said rotary plug and housing providing a first position
5 connecting a first connecting-opening pair (4, 5) a second
6 position, connecting a second connecting-opening pair (4, 6), and
7 a gap (10) disposed between said rotary plug (1) and said housing
8 wherein the improvement comprises a rotary plug (1) and/or
9 housing (2) having at least one labyrinth seal arrangement (7),
10 having ~~at least one~~ a labyrinth seal groove (8, 9), ~~wherein the~~
11 ~~labyrinth seal groove (8) of~~ comprised of a plurality of seal
12 grooves disposed on the rotary plug (1) ~~is arranged largely~~

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

~~13 continuously around at least one opening of a through channel (3)~~
~~14 and is axially displaced from an end of said through channel,~~
~~15 and/or in that the labyrinth seal groove (9) of the housing (2)~~
~~16 is arranged largely continuously and a plurality of seal grooves~~
~~17 disposed~~ around at least one of the connecting openings (4, 5, 6)
~~18 and is axially or radially displaced from an end of a connecting~~
~~19 opening of said housing in said housing (2).~~

1 2. (Currently amended) The diverter switch according to
2 Claim 1, ~~further comprising a~~ wherein said plurality of labyrinth
3 seal grooves (8, 9) are arranged next to one another.

1 3. (Original) The diverter switch according to claim 1 or 2
2 further comprising at least one feed opening (12) for a feed
3 channel for feeding a gap fluid into the gap (10) between rotary
4 plug (1) and housing (2).

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

1 4. (Original) The diverter switch according to claim 1 or 2
2 further comprising a feed opening (12) in the labyrinth seal
3 groove (8, 9).

1 5. (Currently amended) The diverter switch according to
2 claim 1 or 2 further comprising means for insuring the pressure
3 of ~~the~~ a gap fluid is greater than a pressure of ~~the~~ a conveying
4 fluid.

1 6. (Currently amended) The diverter switch according to
2 claim 1 or 2 wherein the composition of ~~the~~ a gap fluid is
3 substantially the same as the composition of ~~the~~ a conveying
4 fluid.

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

1 7. (Original) The diverter switch according to claim 1 or
2 2 wherein the maximum width (W) of the gap (10) is smaller than
3 or equal to five-tenths of a millimetre ($W \leq 5/10$ mm).

1 8. (Original) The diverter switch of claim 1 or 2 wherein
2 the maximum width (W) of the gap 10 is smaller than or equal to
3 three-tenths of a millimetre ($W \leq 3/10$ mm).

1 9. (Currently amended) A fluid diverter device
2 comprising:

3 (a) a housing having a plurality of through channels and a
4 seat for a rotatable plug;

5 (b) a rotatable plug disposed in said seat selectively
6 rotatably interconnecting at least one of said plurality of
7 through channels;

8 (c) a labyrinth seal having a plurality of sealing grooves
9 ~~displaced axially or radially from an end of one of said~~
10 ~~plurality of through channels and disposed between said housing~~

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

11 and on said rotatable plug and a plurality of sealing grooves
12 disposed in said seat for said rotatable plug; and
13 (d) a fluid gap seal disposed intermediate said
14 housing and said rotatable plug in communication with said at
15 ~~least one seal groove~~ plurality of sealing grooves of said
16 labyrinth seal.

1 10. (Original) The fluid diverter of claim 9 further
2 comprising at least one feed channel in communication with said
3 fluid gap seal.

1 11. (Original) The fluid diverter of claim 10 further
2 comprising means for increasing the pressure of the gap fluid to
3 a pressure greater than the conveying fluid.

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

1 12. (Currently amended) The fluid diverter of claim 9
2 wherein said plurality of grooves ~~are~~ disposed on said rotatable
3 plug ~~and are disposed on said plurality of channels housing~~ are
4 concentrically arranged.

1 13. (Currently amended) The fluid diverter of claim 12
2 wherein said plurality of grooves disposed on said rotatable plug
3 and said plurality of grooves disposed ~~on~~ in said housing seat
4 are concentrically staggered.

1 14. (Currently amended) A fluid device for diverting
2 fluids comprising:
3 (a) a housing having a plurality of through channels and a
4 seat for a rotatable plug;
5 (b) a rotatable plug disposed in said seat selectively

ROBERT MUELLER and
FRANZ-JOSEF VOGELSANG
Serial No.: 10/527,467

6 rotatably interconnecting at least two of said plurality of
7 through channels;

8 (c) a labyrinth seal having a plurality of concentric
9 grooves disposed ~~in~~ on said rotatable plug ~~or~~ and in said seat
10 around at least one opening of said plurality of through
11 channels, said plurality of concentric grooves ~~being axially or~~
12 ~~radially displaced from at least one end of said plurality of~~
13 ~~through channels on said rotatable plug and in said seat being~~
14 concentrically staggered;

15 (d) a fluid gap seal disposed in said seat for said
16 rotatable plug or in said rotatable plug; and

17 (e) a fluid feed channel communicating with said fluid gap
18 seal.